

### AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1. **(Currently Amended)** A method for detecting a mobile unit by a Base Station, wherein frequency-hopping is used to communicate between Base Stations and mobile units, comprising:
  - at a Base Station that is connected to a mobile unit, periodically yielding a hop; [and]
  - transferring to at least one neighboring base station timing information identifying a timing of said hop; and
  - based on said timing information, during the hop which has been yielded by the Base Station connected with the mobile unit, communicating with the mobile unit from said at least one neighboring Base Station.
2. **(Original)** Method, according to claim 1, further comprising:
  - at neighboring Base Stations that are not close to each other, using the same hop to communicate with the mobile unit; and
  - at neighboring Base Stations which are close to one another, using different hops to communicate with the mobile unit.
3. **(Currently Amended)** In a wireless communication system comprising a Base Station connected with a mobile unit, a method of detecting a mobile unit by at least one Base Station which is waiting for the mobile unit to enter its coverage area, comprising:

transferring to the at least one Base Station waiting for the mobile unit to enter its coverage area timing information identifying a time interval;

from the at least one Base Station waiting for the mobile unit to enter its coverage area, sending [[a]] at least one PING command to the mobile unit during said time interval; and

at the Base Station waiting for the mobile unit to enter its coverage area, receiving [[an]] at least one ECHO reply from the mobile unit.

4. **(Currently Amended)** Method, according to claim 3, ~~further comprising:~~

~~from the Base Station waiting for the mobile unit to enter its coverage area, sending the PING command during~~ wherein said time interval comprises a time interval that the Base Station connected with the mobile unit has yielded.

5. **(Original)** Method, according to claim 3, further comprising:

at each Base Station receiving the ECHO response, measuring the quality of the ECHO response and reporting the quality measurements to a Switch connected to the Base Stations.

6. **(Original)** Method, according to claim 3, further comprising:

measuring the quality of each ECHO response by a technique selected from the group consisting of energy level measurement, signal-to-noise ratio (SNR) measurement, packet loss ratio, and bit error rate measurement (BER).

7. **(Original)** Method, according to claim 3, wherein:

the PING command comprises data fields selected from the group consisting of a device address for the mobile unit, an identifier for the mobile unit, a message length, and data; and

the ECHO response comprises data fields selected from the group consisting of an identifier for the mobile unit, a message length, and data.

8. **(Original)** Method, according to claim 3, further comprising:

at each Base Station, maintaining information about connections between mobile units and neighboring Base Stations, wherein the information is selected from the group consisting of connection number, handset ID, Base Station ID, handoff status and handset detection status.

9. **(Original)** Method, according to claim 8, wherein the handset detection status information comprises information selected from the group consisting of number of successful PING, time of last successful PING, quality measurements for successful PINGs.

10. **(Original)** Method, according to claim 3, wherein the mobile unit is a device selected from the group consisting of:

telephone handset, standard cordless telephone handset, cellular telephone handset, personal data device, personal digital assistant (PDA), computer, laptop computer, e-mail server, a device utilizing point-to-point protocol (PPP) to the

Internet via a central remote access server, a headset, a personal server, a wearable computer, a wireless camera, and a mobile music player.

11. **(Original)** Method, according to claim 3, further comprising:

providing communication links between the Base Stations, wherein the communication links between the Base Stations are selected from the group consisting of RF links and land lines; and

transferring connection status information and rough synchronization information between the Base Stations over the communications links.

12. **(Original)** Method, according to claim 3, wherein:

the wireless communication system comprises a wireless private branch exchange (WPBX) handling calls from mobile units comprising handsets.

13. **(Currently Amended)** In a wireless communication system comprising a Base Station connected with a mobile unit, a method of detecting a mobile unit by at least one Base Station which is waiting for the mobile unit to enter its coverage area, comprising:

from the Base Station connected with the mobile unit, sending [[a]] at least one PING command to the mobile unit during a time interval; [[and]]

transferring to the Base Station waiting for the mobile unit to enter its coverage area timing information identifying said time interval; and

based on said timing information, at the Base Station waiting for the mobile unit to enter its coverage area, receiving an ECHO reply from the mobile unit in response to said PING command.

14. **(Previously presented)** Method, according to claim 13, further comprising:

at each Base Station receiving the ECHO response, measuring the quality of the ECHO response and reporting the quality measurements to a Switch connected to the Base Stations.

15. **(Previously presented)** Method, according to claim 13, further comprising:

measuring the quality of each ECHO response by a technique selected from the group consisting of energy level measurement, signal-to-noise ratio (SNR) measurement, packet loss ratio, and bit error rate measurement (BER).

16. **(Previously presented)** Method, according to claim 13, wherein:

the PING command comprises data fields selected from the group consisting of a device address for the mobile unit, an identifier for the mobile unit, a message length, and data; and

the ECHO response comprises data fields selected from the group consisting of an identifier for the mobile unit, a message length, and data.

17. **(Previously presented)** Method, according to claim 13, further comprising:

at each Base Station, maintaining information about connections between mobile units and neighboring Base Stations, wherein the information is selected from the group consisting of connection number, handset ID, Base Station ID, handoff status and handset detection status.

18. **(Previously presented)** Method, according to claim 17, wherein the handset detection status information comprises information selected from the group consisting of number of successful PING, time of last successful PING, quality measurements for successful PINGs.
19. **(Previously presented)** Method, according to claim 13, wherein the mobile unit is a device selected from the group consisting of:
  - telephone handset, standard cordless telephone handset, cellular telephone handset, personal data device, personal digital assistant (PDA), computer, laptop computer, e-mail server, a device utilizing point-to-point protocol (PPP) to the Internet via a central remote access server, a headset, a personal server, a wearable computer, a wireless camera, and a mobile music player.
20. **(Previously presented)** Method, according to claim 13, further comprising:
  - providing communication links between the Base Stations, wherein the communication links between the Base Stations are selected from the group consisting of RF links and land lines; and
  - transferring connection status information and rough synchronization information between the Base Stations over the communications links.

21. **(Previously presented)** Method, according to claim 13, wherein:
- the wireless communication system comprises a wireless private branch exchange (WPBX) handling calls from mobile units comprising handsets.
22. **(Currently Amended)** In a system that includes a mobile unit and a plurality of Base Stations, and wherein a first one of the Base Stations communicates with the mobile unit during preselected time intervals, a method for ~~[[another]]~~ a second Base Station to detect the mobile unit, comprising the steps of:
- the first Base Station periodically yielding a time interval; ~~[[and]]~~
- transferring to said second base station timing information identifying a timing of the periodically yielded time interval; and
- based on said timing information, said second base station communicating with said mobile unit during said time interval ~~that has been yielded by the first Base Station, at least one neighboring Base Station communicating with the mobile unit.~~
23. **(Previously presented)** Method, according to claim 1, wherein said communicating with the mobile unit from said at least one neighboring Base Station includes transmitting to the mobile unit by said at least one neighboring Base Station.
24. **(Previously presented)** Method, according to claim 13, wherein the at least one Base Station waiting for the mobile unit to enter its coverage area starts to monitor said ECHO

reply when an initial connection of the mobile unit to any one of the Base Stations is created.

25. **(Currently Amended)** Method, according to claim 3, wherein sending said at least one PING command comprises ~~the at least one Base Station waiting for the mobile unit to enter its coverage area sends~~ periodically sending a plurality of said PING commands to the mobile unit.
26. **(Currently Amended)** Method, according to claim 13, wherein sending said at least one PING command comprises ~~the Base Station connected with the mobile unit sends~~ periodically sending a plurality of said PING commands to the mobile unit.
27. **(New)** A wireless communication system comprising:
- a first base station able to communicate with a mobile unit; and
  - a second base station waiting for the mobile unit to enter its coverage area, said second base station able to receive timing information identifying a timing of a time interval yielded by said first base station, to send at least one PING command to said mobile unit during said time interval, and to receive at least one ECHO reply from said mobile unit.
28. **(New)** The wireless communication system of claim 27 comprising a switch connected to said first and second base stations, wherein said second base station is able



to measure the quality of the ECHO response, and to report the quality measurements to said switch.

29. (New) The wireless communication system of claim 28, wherein said second base station is able to measure the quality of the ECHO response by a technique selected from the group consisting of energy level measurement, signal-to-noise ratio (SNR) measurement, packet loss ratio, and bit error rate measurement (BER).
30. (New) The wireless communication system of claim 27, wherein said PING command comprises data fields selected from the group consisting of a device address for the mobile unit, an identifier for the mobile unit, a message length, and data; and wherein the ECHO response comprises data fields selected from the group consisting of an identifier for the mobile unit, a message length, and data.
31. (New) The wireless communication system of claim 27, wherein each one of said first and second base stations is able to maintain information about connections between mobile units and neighboring Base Stations, wherein the information is selected from the group consisting of connection number, handset ID, Base Station ID, handoff status and handset detection status.
32. (New) The wireless communication system of claim 31, wherein the handset detection status information comprises information selected from the group consisting of number of

successful PING, time of last successful PING, quality measurements for successful PINGs.

33. (New) The wireless communication system of claim 27, wherein the mobile unit is a device selected from the group consisting of a telephone handset, a standard cordless telephone handset, a cellular telephone handset, a personal data device, a personal digital assistant (PDA), a computer, a laptop computer, an e-mail server, a device utilizing point-to-point protocol (PPP) to the Internet via a central remote access server, a headset, a personal server, a wearable computer, a wireless camera, and a mobile music player.
34. (New) The wireless communication system of claim 27 comprising one or more communication links connecting said first and second base stations, said first and second base stations are able to transfer connection status information and rough synchronization information over said communications links, wherein the communication links are selected from the group consisting of RF links and land lines.
35. (New) A wireless communication system comprising:
- a first base station connected to a mobile unit, and able to send at least one PING command to the mobile unit during a time interval; and
  - a second base station waiting for the mobile unit to enter its coverage area, said second base station able to receive timing information identifying said time interval, and based on said timing information, to receive from the mobile unit an ECHO reply in response to said PING command.

36. (New) The wireless communication system of claim 35 comprising a switch connected to said first and second base stations, wherein said second base station is able to measure the quality of the ECHO response, and to report the quality measurements to said switch.
37. (New) The wireless communication system of claim 36, wherein said second base station is able to measure the quality of the ECHO response by a technique selected from the group consisting of energy level measurement, signal-to-noise ratio (SNR) measurement, packet loss ratio, and bit error rate measurement (BER).
38. (New) The wireless communication system of claim 35, wherein said PING command comprises data fields selected from the group consisting of a device address for the mobile unit, an identifier for the mobile unit, a message length, and data; and wherein the ECHO response comprises data fields selected from the group consisting of an identifier for the mobile unit, a message length, and data.
39. (New) The wireless communication system of claim 35, wherein each one of said first and second base stations is able to maintain information about connections between mobile units and neighboring Base Stations, wherein the information is selected from the group consisting of connection number, handset ID, Base Station ID, handoff status and handset detection status.

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SERIAL NO.: 10/077,985  
FILED: February 20, 2002  
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40. (New) The wireless communication system of claim 39, wherein the handset detection status information comprises information selected from the group consisting of number of successful PING, time of last successful PING, quality measurements for successful PINGs.
41. (New) The wireless communication system of claim 35, wherein the mobile unit is a device selected from the group consisting of a telephone handset, a standard cordless telephone handset, a cellular telephone handset, a personal data device, a personal digital assistant (PDA), a computer, a laptop computer, an e-mail server, a device utilizing point-to-point protocol (PPP) to the Internet via a central remote access server, a headset, a personal server, a wearable computer, a wireless camera, and a mobile music player.
42. (New) The wireless communication system of claim 35 comprising one or more communication links connecting said first and second base stations, said first and second base stations are able to transfer connection status information and rough synchronization information over said communications links, wherein the communication links are selected from the group consisting of RF links and land lines.